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Update on Water Quality

United States Department of Agriculture

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National Animal Waste Workshop

Commodity groups and individuals representing aquaculture, beef, dairy, poultry, and swine developed suggestions for additional educational and technical assistance, and research, necessary to improve each group's response to water quality concerns.

The consensus was developed at the National Livestock, Poultry, and Aquaculture Waste Management Workshop held in Kansas City, MO, in July. Extension Service, Soil Conservation Service, Agricultural Research Service, Cooperative State Research Service, the Tennessee Valley Authority, the U.S. Environmental Protection Agency, and Michigan State University—jointly sponsored the workshop.

All agreed that waste from animal production and processing has long been associated with contamination of ground and surface waters in the United States.

Federal and state agencies, and the animal industries, are actively seeking ways to minimize the negative effects of animal production on water quality. Commodity group representatives requested increased educational programs and technical assistance to cover all aspects of animal waste management and water quality.

The general session presented the latest available information on animal waste. Participants also refined recommendations that will improve communication and cooperation between government agencies, environmental groups, farmers, colleges and universities, and the individual industries.

For additional information contact Richard Reynnells, ES-USDA National Program Leader, Poultry Science, Room 3334, South Building, Washington, DC 20250-0900. Telephone 202-447-4087.

1992 Water Quality Special Project Requests

The Agricultural Stabilization and Conservation Service (ASCS) is accepting water quality special project proposals for Fiscal Year 1992 through September 20. Initial allocations will be limited to a maximum of \$500,000 per project. In Fiscal Years 1990 and 1991, as part of the President's Water Quality Initiative, ASCS funded 75 such projects, all designed to restore impaired water resources where agricultural nonpoint source pollution has continued to have a detrimental effect.

State ASCS offices are limited to submitting two proposals per state. Each proposal must detail the support provided by Soil Conservation Service and the Extension Service, as well as assistance from other federal, state and, local agencies responsible for water quality, recreation, and wildlife.

ASCS guidelines for the 1992 program also encourage project participation by public and private schools, sports enthusiasts, civic and church organizations, and from environmental groups.

SWCS Conservation Conference

The Soil and Water Conservation Society sponsored a conference on Crop Residue Management for Conservation, in Lexington, KY, August 8-9, 1991.

The major conference objective was to encourage producers to adopt residue management practices to achieve conservation compliance. Approximately 80 percent of current conservation plans rely on crop residues as a means of controlling erosion.

Vivan Jennings, Deputy Administrator, ES-USDA, Agriculture Programs, and William Richards, Chief, Soil Conservation Service, delivered the opening and closing remarks. Much of the conference discussion centered around state-of-the-art crop residue management.

For more information, contact Francis Thicke, ES-USDA National Program Leader, Soil Science, at 202-447-5369; or Internet: fthicke@es-cit.esusda.gov.

Farm*A*Syst—National Coop Program

A national cooperative program will soon be underway to assist farmers and their rural neighbors in identifying and reducing potential and current sources of groundwater and drinking water contamination from farmsteads and rural residences. This program, supported by Extension Service (ES), Soil Conservation Service (SCS), and the Environmental Protection Agency (EPA), stems from enthusiastic response to Farm*A*Syst, an education and assessment tool developed by Wisconsin and Minnesota Cooperative Extension Services and Region V EPA. Current agricultural water quality programs, including the USDA Water Quality Initiative, focus on reducing water contamination risks from field practices.

Farm*A*Syst is unique because it comprehensively addresses potential groundwater contamination from 10 significant potential sources near the

farmstead drinking water well. Farmers and rural residents use Farm*A*Syst to assess current structures and practices such as pesticide and fertilizer mixing, loading practices, and maintaining petroleum product storage tanks. Site conditions that affect pollution vulnerability are assessed to help farmers prioritize actions to reduce or prevent pollution.

Farm*A*Syst identifies technical expertise and financial assistance to enable implementation of preventive and corrective actions. Nationwide program expansion will facilitate rapid, cost-effective modification of the materials and implementation of the program so that local needs, policy requirements, and site condition in other interested states are accurately reflected. For more information, contact Susan Jones at (608) 262-2031, or Gary Jackson at (608) 262-1916.

USDA Symposium Highlights Ground- water Research

An Agricultural Research Service (ARS) groundwater research symposium at Beltsville reported:

- The first soil nitrogen test developed for the humid east successfully identified sites where no additional nitrogen fertilizer was needed. Grass cover crops reduced nitrate losses. Soil sampling down to 12 feet showed no-till methods can lower nitrate concentrations. (J.J. Meisinger)
- Atrazine, carbofuran, and diazinon biodegrade faster in no-till cornfields than in plowed fields. Groundwater flowing through Wye River forests generally seemed cleansed of nitrate running from surrounding farmland. Microbes fed by carbon from decaying roots may be removing the nitrate molecules. (J.L. Starr)
- An intensive study of farm chemical movement is now in its 6th year, and promises much-needed answers. An apparatus has been designed to study pesticide degradation at depths of 6 feet or more. A rain simulator carousel, designed for greenhouse use, quickly screens for pesticide-soil-rainfall

combinations least likely to cause leaching. (A.R. Isensee)

- A new prototype for a machine that converts waste pesticides to water, ammonia, and carbon dioxide is being tested this summer. (D.R. Shelton)
- Bioengineering of super bacteria offers hope of a new way to rapidly degrade atrazine and other pesticides. (J.S. Karns)
- Well water at Beltsville, the Eastern Shore, Pennsylvania, and Iowa is being genetically tested for mutagenicity. The SOS Chromotest, was originally used to screen industrial chemicals, but has been adapted by ARS to study both the effects of chemicals in groundwater and the effects of dietary fat. (R.M. Pein)
- NUMEX (Nutrient Management Expert System) is now being used by the University of Maryland's soil testing lab. This computer program advises farmers on the amounts of manure, sludge, and commercial fertilizer to apply to maintain yields without contaminating water supplies. It is being adapted for use in the Midwest. (V.R. Reddy)

Contact Don Comis, ARS, USDA 301-344-2773 for additional information.



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